

**WASHINGTON DEPARTMENT OF ECOLOGY**

**RESPONSE TO PUBLIC COMMENTS**

**U.S. OIL & REFINING CO. – TACOMA REFINERY  
NPDES PERMIT 000178-3**

**April 8, 2002**

Public notice for issuance of the U.S. Oil & Refining Company Tacoma Refinery NPDES Permit (000178-3) was published on January 14, 2002 with a closing date of February 12, 2002. Comments were received by Ecology through February 18, 2002.

Changes have been made to the Permit, where appropriate, to address the comments and to improve clarity. Changes made are discussed in the response to comments. Comments are noted in bold type and Ecology responses are noted in normal font.

A copy of this response to comments is being sent to each individual who provided written comment or to any person who indicates their desire to have a copy upon Permit issuance. The original comment letters are available for public review at the Ecology Industrial Section office in Lacey, WA. Anyone interested in obtaining a copy of the full text of the comments or of a particular comment should call Ewa Kotwicka at (360) 407-6945 or e-mail [ekot461@ecy.wa.gov](mailto:ekot461@ecy.wa.gov).

**• Comments from U.S. Oil & Refining, Co.**

**Outfall 002 - Location**

*Reference: NPDES Permit: Cover Page*

**The discharge location for Outfall 002 is incorrect. The description of this location should be amended to read as follows: Outfall 002 (NW Tank #80018).**

Comment noted and the Permit will be changed.

**Temperature – Outfall 001 Effluent Limitation**

*Reference: NPDES Permit: Page 7, Table titled “Effluent Limitation: Outfall 001”*

**U.S. Oil would prefer to report temperature as degrees Fahrenheit rather than degrees Celsius as our temperature instrumentation reads in degrees Fahrenheit.**

**U.S. Oil is proposing to collect this information as a daily grab for inclusion in the monthly NPDES DMR report.**

The Permit will be changed to degrees Fahrenheit.

### **Sulfide - Outfall 001 Effluent Limitation**

***Reference: NPDES Permit: Page 7, Table titled “Effluent Limitation: Outfall 001”***

**As noted in Appendix D of the Fact Sheet, U.S. Oil has only recorded one sulfide measurement greater than the detection limit of 0.1 mg/l for the time period from January 1991 through October 1999. U.S. Oil is requesting that a provision be added to the NPDES permit that allows for a reduction in the monitoring frequency for sulfide for performance that is consistently below the technical permit limits.**

Analysis of Daily Monitoring Report data from February 2000 to February 2002 indicates that a reduction in the collection of sulfide data can be approved by the Department. The reduction in monitoring is from one measurement per week to two measurements per month. Sulfide measurements have been consistently below the existing and proposed permit limits for the last two years. If performance deteriorates Ecology will require that monitoring revert to the schedule required in the previous permit as noted in footnote c to the Effluent Limitations: Outfall 001 table.

### **Calendar Day – Outfall 001 Effluent Limitation**

***Reference: NPDES Permit: Page 8, Footnote b to Table titled “Effluent Limitation: Outfall 001”***

**As you are aware, U.S. Oil’s 24-hour monitoring period typically runs from 0800 to 0800 rather than from midnight to midnight as is suggested by using the term “calendar day”. The intent of the second sentence of footnote b should be clarified to read as follows: “The daily discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.”**

The permit defines 24-hour sampling in the definition of Daily Maximum Discharge Limitation. The definition includes the language “or any 24-hour period that reasonably represents the calendar day for the purposes of sampling”.

## **Outfall 003 - Table summarizing Outfall 003 monitoring requirements**

*Reference: NPDES Permit: Page 10, Section SI.D*

The fact sheet mentions that the limitations listed for Outfall 003 are similar to the ones required for stormwater from other nearby petroleum storage tank containment areas and that monitoring for BOD, COD, NWTPH-Dx and NWTPH-Gx are intended to gather information about these parameters in stormwater from petroleum storage facilities. It is important to note that U.S. Oil's Marine Terminal does not operate like other nearby petroleum storage tank containment areas. U.S. Oil is thereby requesting that the testing requirements for BOD, COD, NWTPH-Dx and NWTPH-Gx be removed from Outfall 003 for the reasons outlined below:

### **1. Stringent Stormwater Management Procedures**

U.S. Oil has not observed any oil sheen within this vault since it was placed into operation during 1998. Exhibit A, titled Standing Order #D-21 addresses the procedures whereby Operations manages the Marine Terminal stormwater system. The Marine Terminal stormwater system is not continuously operated, rather it is our practice to check the stormwater for the presence of any oil sheens prior to manually activating the discharge pumps. Our procedures are not to pump any stormwater if there is any oil sheen present. The protection is further enhanced by the weirs within the vault that are capable of capturing fugitive sheening should there be any. The stormwater, which naturally contains elevated levels of oxygen, is routinely pumped to Outfall 003 in accordance with Standing Order #D-21 rather than allowed to sit and stagnate. Therefore, any measurable levels of BOD, COD, NWTPH-Dx and NWTPH-Gx are expected to be negligible or non-detectable..

### **2. No Gasoline Is Stored Within Marine Terminal Tank Farm**

Only marine diesel oil, cutterstock and Bunker C are stored in the dock tank farm area whose stormwater drainage is served by this outfall. U.S. Oil does not store any gasoline in the Marine Terminal tank farm. While, U.S. Oil utilizes two dedicated pipelines to directly ship gasoline between the refinery and Dock #1, none of this product passes through the Marine Terminal tank farm. The proposed NWTPH-Gx analytical test measures petroleum hydrocarbons in the C<sub>6</sub> – C<sub>12</sub> range. The petroleum hydrocarbons stored at the Marine Terminal tank farm are heavier than those that can be measured by the NWTPH-Gx analytical test.

### **3. No WAC 173-200 Groundwater Quality Criteria**

The evaluation of BOD, COD, NWTPH-Dx and NWTPH-Gx doesn't appear to provide any meaningful purpose as there is no groundwater quality criteria in WAC 173-200 to compare this analytical data against.

#### **4. Stormwater Percolated Into Shallow Aquifer**

The monitoring requirements for BOD, COD, NWTPH-Dx and NWTPH-Gx are inappropriate for Outfall 003 when considering that captured stormwater is being percolated into a shallow groundwater aquifer rather than being discharged directly into an open body of water (Blair Waterway). This aquifer is non-potable and has a relatively flat flow gradient. The distance from the stormwater percolation basin to the Blair Waterway is more than 350 feet.

#### **5. Pollution Prevention Safeguards Already In Place**

The quality of the non-contact stormwater collected within the containment area is further enhanced by the number of pollution prevention items that have been installed during recent years to mitigate the potential for any release of oil into the containment area. Key pollution prevention items include (but are not limited to) the installation of remote tank gauging and tank high level alarm systems, installation of a pipeline leak detection system, installation of a clay liner in the containment cell and development of operating procedures for managing the Marine Terminal tank farm area. The primary purpose of the secondary containment liner is to protect the groundwater in the event that there is another oil release within the dock tank farm area. Prior to installation of the clay liner system, however, stormwater that accumulated in the Marine Terminal tank farm was naturally allowed to percolate into the ground. There has not been any observed subsurface contamination in the tank farm area as a result of this practice. Additional discussion of pollution prevention practices employed at U.S. Oil are outlined in our SPCC plan and our Marine Terminal Operations Manual. Ecology has current copies of both of these documents on file.

#### **6. Subsurface Petroleum Hydrocarbon Risk Mitigated**

The potential for stormwater to be impacted by any subsurface petroleum hydrocarbons is greatly diminished as a result of our clean-up and installation of a clay liner within the Marine Terminal tank farm area following the March 16, 1998 incident involving an overflow of Tk #8503. Additional details are provided in the remediation report that was developed by Dalton, Olmsted & Fuglevand and submitted to Ecology on January 27, 1999. The success of these remediation efforts is further evidenced by the latest round of observation well sampling (OP-1 and OP-2) performed on January 9, 2002 in which the analytical results for diesel

and motor oil range hydrocarbons were non-detect. A copy of these analytical results are located in Exhibit B.

Upon consideration of the information contained in this discussion, U.S. Oil recommends that monitoring for Outfall 003 consist of collecting a grab sample once per month and analyzing this sample for oil & grease. The concentration in the discharge will at no time exceed 15 mg/l. Analytical results will be reported on the monthly DMR for the month in which the sampling was conducted. No sampling for oil & grease will be required during any month without discharge to Outfall 003.

The Marine Terminal generates storm water that has the potential to be affected by past oil spills. Federal regulations include effluent limitations for contaminated runoff from petroleum refineries. US Oil is correct that this runoff has been clean in the past but because there is potential for contamination US Oil is required to demonstrate through monitoring that the stormwater is uncontaminated. Monitoring NWTPH-Dx is required because of a past oil spill in the Marine Terminal containment. The collection of one suite of samples during the Permit term that represents storm water from the Marine Terminal is not unreasonable.

The monitoring requirement for NWTPHGx will be removed because the product is not stored in the Terminal tank farm.

### **Technology-Based Effluent Limitations**

*Reference: NPDES Permit: Page 9, Section S1.C titled "Stormwater Allocation (outfall 001)"*  
*Fact Sheet: Page 14, Stormwater Allocations*

The permit notes that during the months of June through October, the permittee shall only be allowed to claim the stormwater allocation when it can be demonstrated that measurable rainfall has occurred at the refinery site in the previous 10 calendar days. Exhibit C provides a summary of monthly rainfall totals as recorded at USOR from January 1995 through December 2001. Upon review of this data, it is important to note that October is one of the wetter months with a rainfall average of 4.09 inches. Therefore, USOR is requesting that this stormwater allocation provision be limited to the dryer months of June through September.

It is important to emphasize that U.S. Oil does not have a separate stormwater discharge point. As such, this stormwater is processed through the refinery secondary wastewater treatment plant. This is different than most other oil refineries, which have separate stormwater discharges. Overall, U.S. Oil's ability to utilize stormwater allocations was greatly reduced under the terms of this new NPDES permit by elevating our dry weather flow rate from 160

gpm to 230 gpm while the capacity of secondary wastewater treatment system remains unchanged at approximately 680 gpm. While USOR has the capacity to process stormwater at a sustained rate of approximately 450 gpm through our secondary wastewater treatment plant, our ability to process this water in an expeditious manner is hampered by the factors identified in the following paragraphs.

U.S. Oil has the ability to store stormwater in Tks #80007, 80008, the stormwater retention pond and tankage berms. Berm drains are always closed unless opened in order to systematically drain stormwater from the tank berms. During a storm event, excess quantities of contaminated process water and contaminated stormwater are managed in Tks #80007 and 80008. As capacity becomes available within the refinery wastewater treatment system, priority is given to processing this contaminated water. This is important since we don't want to be in a position where we need to store contaminated stormwater in tank berms. U.S. Oil then starts to drain the tank berms as additional capacity becomes available in Tks #80007 and 80008.

The tank berm areas typically drain very slowly since the flow gradient is rather flat and there is minimal "head pressure" necessary to increase flow. The process of draining berms is further lengthened by the fact that U.S. Oil typically only has 2 berms draining at a time in order to mitigate oil spill risk. Therefore, the process of completely draining all of the tank berms can take several weeks.

The stormwater allocation limit of 10 days following measurable rainfall is overly restrictive when considering that U.S. Oil can typically store the following nominal quantities of stormwater: Tk 80007 = 80,000 bbls; Tk #80008 = 80,000 bbls; Tankage Berms (collectively) = 80,000 bbls; and the stormwater retention pond = 23,800 bbls. As experienced during recent years, it takes approximately 17 days in order to process this volume of water when considering that we can process this effluent at a sustained rate of 450 gpm above our dry weather flow rate of 230 gpm.

It is important to note that the wastewater treatment plant processing rates are periodically impacted by other factors that can happen anytime during the year and can take anywhere from a few days to several weeks to resolve depending on the severity of the situation. In these situations we may need to divert flow or reduce our processing rates until these problems are corrected or maintenance activities completed. Therefore, U.S. Oil must have the ability to take stormwater allocations for these types of events when we are processing stormwater. Some examples include the following:

- Mechanical problems including (but not limited to) feed pump failures, Orbal disc pack malfunctions, etc.

- **Secondary Wastewater Treatment Plant equipment turnaround.** During a recent turnaround event, flow to the outfall was diverted to temporary storage from August 22, 1999 through September 6, 1999 to facilitate maintenance repair work on both the clarifier and Orbal. In order to process this diverted water, flow rates were elevated to approximately 400 gpm for the following week after the clarifier and Orbal were placed back into service.
- **TSS flocculation problems in the Clarifier**
- **DO or other biological limitations within the Orbal**
- **Excess oil & grease in the Orbal feed**
- **Polymer addition problems**
- **Stormwater periodically over-flowing the Marshall Ave. drainage ditch onto our property.** The majority of these areas drain to our wastewater treatment plant.

**In response, Orbal feed rates need to be gradually adjusted. Based upon our operating experience, we generally limit Orbal feed rate increases or decreases to no more than 100 to 150 gpm per day.**

**U.S. Oil is also requesting the ability to utilize stormwater credits in the unlikely event that one of the following situations occurs:**

- **There is a need to process “clean water” through the wastewater treatment plant rather than directly into Lincoln Ave. Ditch or Outfall 003 in the event that this effluent must be treated prior to discharge.**
- **There is the need to process large volumes of water in the event that U.S. Oil is directly (or indirectly) involved in responding to an oil spill. U.S. Oil would need the ability to process recovered water to the extent that decanting of this water is not authorized by the State On-Scene Coordinator and/or Federal On-Scene Coordinator. There is the possibility that U.S. Oil could be approached to accept recovered water from other spill response activities as evidenced during the Olympic Pipeline Tabletop Spill Drill conducted on October 24 and 25, 2001. This drill involved a worst case scenario along the Puyallup River. The Olympic Pipeline Spill Response Team contacted U.S. Oil in an effort to explore our ability to process oily water recovered from the Puyallup River/Commencement Bay.**
- **There is the need to process large quantities of water generated in response to fighting a refinery fire.**

**In order to adequately manage the conditions mentioned above, U.S. Oil is also requesting that the stormwater allocation discussion on page 9 of the NPDES permit be amended to allow for stormwater allocations when it can be demonstrated that measurable rainfall has occurred at the refinery site during the previous 17 days.**

The Department has analyzed the data which U.S. Oil & Refining has submitted along with data from the National Weather Service for the 30 year normal precipitation rates for Tacoma and Olympia. The time period in October does match wet winter conditions and not dry summer conditions. The Department will change the dry weather time period from June through October to June through September.

The Department analyzed the refinery rainfall data from the summer months of June through September for the years 1996 through 2000. The Department did not find sufficient heavy rainfall during the summer months to warrant changing the summer time period for storm water allocation to beyond the 10 days in the proposed permit.

The Stormwater allocation was included in federal regulation to address excess stormwater not plant upsets or non routine operations due to maintenance activities. The storm water allocation should only be applied to the permit limits when there has been measurable rainfall. This permit allows the allocation during the wet weather months of October through May. The allocation is also allowed in the summer when rain events occur. The allocation gives U. S. Oil & Refining ten days to process the collected rainwater through the wastewater treatment system. The stormwater allocation section of the Permit allows U.S. Oil & Refining to submit data to extend the time period the allocation can be used. It is not necessary to extend the time period to 17 days requested by U.S. Oil.

## **Clean Water Discharge**

***Reference: NPDES Permit: Page 10, Section SI.E***

**Fire hydrant test water is typically discharged either to the wastewater treatment plant or directly onto the ground where it is allowed to percolate into the soil. In accordance with NFPA standards, U.S. Oil's fire water system is required to be flushed on an annual basis to remove rust/scale and any sediments. This system may be flushed more frequently to facilitate maintenance repair activities. Periodically our insurance carrier also requires that we perform a flow test on the fire water system to demonstrate that we can adequately respond to a fire risk.**

**The fire water systems used at both the refinery and Marine Terminal are segregated systems. All fire fighting water is provided by the City of Tacoma through a dedicated line. This line is separate from the City of Tacoma potable water lines. The analytical testing requirements for discharging firewater are excessive in that it is not practical to sample firewater prior to discharge nor is there any guarantee that fire water provided by the City of Tacoma water is capable of meeting water quality criteria. As a point of comparison, water that is routinely flushed from fire hydrants within the City of Tacoma is allowed to flow into adjacent storm drains.**



**It is impossible to collect a sample from the dock sprinkler system. The initial test consists of a complete "trip test" of the system. The inspectors test connection is opened, relieving the air pressure in the system. This activates the automatic valve, which floods the entire system with water. As soon as the system is flooded, the valve is closed. There is approximately 200-250 gallons in the system that will be discharged directly into the Blair Waterway. In accordance with manufacturer's recommendations, this "trip test" will be conducted on an annual basis.**

A new section in the permit has been added to allow for firewater that is from hydrants and the dock fire suppression system. The Permittee will be required to report flow and duration of fire suppression system tests on the DMR.

## **Treatment Efficiency Study and Engineering Report**

***Reference: NPDES Permit: Page 14, & 15 Treatment Efficiency Study and Engineering Report***

**The concrete pond and stormwater retention pond comprise U.S. Oil's stormwater retention system. Water is generally present year around in both the concrete-lined basin and the stormwater retention pond. Stormwater system influent and effluent, however, occurs when there is a storm event or extraordinary maintenance event. Based on the configuration of our stormwater system, U.S. Oil could collect dry weather flow grab samples from the water standing in the concrete-lined basin and/or stormwater retention pond, however, there would not be any influent or effluent with which to collect a 24-hour dry weather flow composite sample. In addition, analytical results achieved from any dry weather samples collected from the stormwater basin would not be representative of any "treatment efficiencies" since there is no flow through the concrete and stormwater ponds during dry weather flow conditions. Therefore, the scope of sampling during dry weather flow conditions should be reduced to account for these no-flow limitations.**

The Department will be notified using a sampling plan of the locations and times of the required treatment efficiency sampling prior to sampling. At that time the sampling plan can be modified so that the study will accurately describe the dry weather flow conditions at the treatment plant. The scope of sampling can either be reduced or increased at the concrete lined-basin or stormwater retention pond.

## **Dioxin Study**

**Reference:** NPDES Permit: Page 18 & 19, Dioxin Study

### **Section S3.B2A – second sentence of 1<sup>st</sup> paragraph**

The discussion of API separator sludge sampling belongs in Section S3.B2B. This sentence should be reworded to read as follows:

Monitoring shall be conducted during the first two reformer regenerations to occur after the effective date of the permit ~~and when the API separator contains sludge levels that can be representatively sampled.~~

### **Section S3.B2A - third paragraph**

It is important to note that our contract lab may not be able to achieve the Minimum Levels of detection that are required for wastewater or sludge due to potential matrix interferences. As written, we would be in violation of our permit if we do not achieve these detection levels. U.S. Oil recommends that this section be amended to include the following statement that appears on page 17 of the NPDES Permit as part of the Characterization Study for Human Health Criteria. “The detection level for the listed parameters may not be achievable because of the limitations of the available test methods. The Permittee is required to achieve the best, reasonably available detection limit obtainable, for their specific wastewater effluent, using approved test methods. If a detection limit is not achievable the Permittee shall notify the Department and include an explanation with the test results.”

### **Section S3.B2B – second sentence of 1<sup>st</sup> paragraph**

The sentence that discusses the timing for sampling the API separator sludge samples for dioxins should be reworded to read as follows:

Sampling events shall be timed to capture sludges generated during the catalytic reformer regeneration events in which the caustic wash water is sampled for dioxins or when the API separator contains sludge levels that can be representatively sampled ~~that are sampled for dioxins in the caustic wash water.~~

### **Section S3.B2C – second paragraph**

U.S. Oil will request that the analytical lab properly perform, provide and maintain on file the type of data requested in this section of our NPDES permit. U.S. Oil should not be held accountable, however, if for some reason the lab elects not to “maintain on file” the information requested in

**this section of our NPDES permit. As written, this leaves U.S. Oil potentially liable for actions outside of our control.**

The Department agrees with the U.S. Oil discussion of reformer generation sample collection language (S3.B2A). The permit will be changed and the API separator language will be modified in the first paragraph, second sentence of the permit. In section S3 B2B the second sentence will be altered to reflect the proposed U.S. Oil language. The intent of the Department is to have API separator sludge present in representative quantities when the reformer wash water sample is taken.

The Department has received wastewater and sludge dioxin analysis from several Washington refineries. Minimum detection levels have always been achieved and have never been a reported problem. The Department will not change the permit language that requires specific detection levels to be achieved by the Permittee.

The permit requires that US Oil requires the laboratory to report and maintain on file specific test information. This requirement should be a part of the contract that US Oil has with its laboratories. The Department notes that U.S. Oil does not have control over how the NPDES contract laboratory maintains the U.S. Oil analytical lab files.

## **Composite Samples**

***Reference: NPDES Permit: Page 20, Composite Samples***

**Section S3.C As you are aware, there are situations in which effluent is discharged to the outfall for only part of the day. Effluent flow to the outfall is diverted to the refinery off test ponds in order to facilitate maintenance activities or in the event that the effluent appears to be going off spec. Based on the duration of this diversion, it is not always possible to collect or even retain a minimum 2 gallons of composite sample over a 24-hour monitoring period even when collecting hourly grab samples. For these infrequent situations, it is important to recognize that the volume of retained sample may not meet the 2-gallon minimum requirement.**

Ecology recognizes that during upset conditions effluent flow will be diverted to ensure permit compliance and that the 2 gallon minimum requirement may not be met.

## **Outfall Line to Blair Waterway**

***Reference: NPDES Permit: Page 21***

**Section S3.G** It is important that the nomenclature used to identify the report submittals more closely match that which is used in WAC 173-240. The term “Engineering Design Report” is more closely aligned with the Engineering Report provisions outlined in WAC 173-240-130 than with the Plans and Specifications provisions outlined in WAC 173-240-140. As you are aware, the basic scope of this project is limited to the construction of a new outfall line. Therefore, it is more appropriate to use the term “Plans and Specifications” rather than an “Engineering Design Report”. As such, Section S3.G has been rewritten to read as follows:

**The Permittee shall construct a new outfall line from the facility to the Blair Waterway. Plans and Specifications for the construction of a new outfall shall be submitted to Ecology for review and approval and shall meet the requirements of Chapter 173-240-140. The Operation and Maintenance (O&M) Manual will be updated to include equipment installed as a result of this project. The O&M Manual will be submitted to the Department for review and approval. Any contemplated changes during construction, which are significant deviations from the approved plans, shall first be submitted to the Department for approval.**

**Construction Schedule:**

- 1. The Plans and Specifications shall be submitted to the Department for review and approval by \_\_\_\_\_.  
(within 2 years of the effective date of the permit)**
- 2. Application for all necessary construction permits shall be made within 6 months after Department approval of project Plans and Specifications.**
- 3. Construction shall be completed within 2 years after all necessary construction permits have been approved.**
- 4. Changes to the Operation and Maintenance Manual shall be submitted to Ecology for review and approval at least 60 days prior to startup of the system.**

Ecology required US Oil to submit an engineering design report to simplify the requirements of WAC 173-240. An engineering design report for a pump station and effluent pipeline should include the necessary elements from both the engineering report and plans and specifications requirements noted in the regulation and submitted in one document. Most of the listed requirements for an engineering report do not apply for a

pump station submittal however at a minimum the basic design and sizing calculations are necessary for Ecology to properly conduct a review of the proposal.

The Department will change the permit to state: construction will be completed within 2 years after all necessary construction permits have been approved.

**Comments below are errors of fact and have been changed in the Fact Sheet.**

**Fact Sheet Cover Page**

**Reference:** *Fact Sheet: Page 1, General Information - Applicant Name*

**The legal title for our company is U.S. Oil & Refining Co.**

**Fact Sheet Cover Page**

**Reference:** *Fact Sheet: Page 1, General Information - Outfall 002*

**Description**

**The discharge location for Outfall 002 is incorrect. The description of this location should be amended to read as follows: Outfall 002 (NW Tank #80018)**

**Fact Sheet Cover Page**

**Reference:** *Fact Sheet: Page 1, General Information – Discharge Location*

**For consistency, the Outfall 001 discharge location at the bottom of the page should be amended to read as follows: “Blair Waterway ~~via the Lincoln Avenue Ditch~~ (Outfall 001)”.**

Comments noted and the Fact Sheet has been changed.

**Summary of Compliance with the Previous Permit**

**Reference:** *Fact Sheet: Page 7, Second paragraph in section titled “Summary of Compliance With The Previous Permit.”*

**The last two sentences of this paragraph are incorrect. They should be reworded to read as follows: “As the result of a miscommunications between U.S. Oil and Parametrix, a total of 10 bioassays were not conducted during 1995/1996. This situation was discovered by U.S. Oil during an internal audit**

of NPDES permit monitoring records.” Please refer to the letter contained in Exhibit D that discusses the missing bioassay monitoring reports.

Comment noted and the fact sheet has been changed.

#### **Wastewater Characterization Discussion**

**Reference:** *Fact Sheet: Page 10, last sentence of 3<sup>rd</sup> the paragraph*

**This sentence needs to be corrected to read as follows: “This is discussed later in the fact sheet (see page ~~24~~ 23).**

Comment noted and Fact Sheet has been changed.

#### **Stormwater Allocations**

**Reference:** *Fact Sheet: Page 14, fifth sentence of 2<sup>nd</sup> paragraph*

**For consistency with the existing draft permit wording, this sentence needs to be corrected to read as follows: “During the months of June through October, U.S. Oil will only be allowed to claim the stormwater allocation when it can be demonstrated that measurable rainfall has occurred at the refinery site during the previous ~~7~~ 10 days”.**

Error has been corrected in the Fact Sheet.

#### **Construction of New Wastewater Discharge Line**

**Reference:** *Fact Sheet: Page 28, Section Heading*

**The title for this section needs to be corrected to read as follows: “CONSTRUCTION OF NEW WASTEWATER ~~DISCHARGE~~ DISCHARGE LINE**

Comment noted and Fact Sheet has been corrected.

#### **Construction of New Wastewater Discharge Line**

**Reference:** *Fact Sheet: Page 28, first paragraph*

**This paragraph needs to be amended to ensure consistency with the outfall line replacement discussion contained in Section S3.G of the NPDES Permit. Suggested wording is as follows:**

The Department has determined that the Permittee has potential to cause pollution through a leaky wastewater discharge line that is over twenty years old. The proposed permit requires the Permittee to prepare a design package ~~an engineering report~~ that ~~will~~ describes the replacement of the current line that runs along the northern refinery boundary. USOR will construct the new outfall from the facility wastewater treatment plant to the current Blair Waterway discharge point. The permit will require USOR to submit to Ecology Plans and Specifications ~~an Engineering Design Report (EDR)~~ that describes the new outfall alignment, any ~~the~~ associated pump stations, flow measurement and sampling devices and construction plans and ~~construction~~ specifications for the new outfall. The Plans and Specifications ~~EDR~~ will be ~~scheduled to be~~ submitted to the Department within two years of the issuance of this Permit with construction finished within two years upon receipt of all necessary construction permits ~~four years of the issuance of this Permit~~.

The Department has not changed the language in the Permit. Fact Sheet will not be changed.

## **Appendix B - Glossary**

**Reference:** Fact Sheet: Page 32, definition of ammonia

The definition for ammonia is focused on the toxic affects of ammonia. From a secondary wastewater treatment perspective, however, biological organisms need carbon, phosphorus and nitrogen in order to develop and sustain healthy colonies. It is important to note that the presence of ammonia is also necessary to maintain an active colony of denitrifier bacteria necessary to “treat” any ammonia that may enter the wastewater treatment plant from other sources.

## **Appendix B - Glossary**

**Reference:** Fact Sheet: Page 32, definition of chlorine

U.S. Oil does not use chlorine to treat pathogens present in the wastewater, however, we do use chlorine injection to help control bacteria growth in cooling tower water.

Comment noted and the Fact Sheet has not been changed. The glossary is general in nature and not changed for each individual permit.

## **Appendix D – U.S. Oil Discharge Monitoring Data**

**Reference:** *Fact Sheet: Pages D-1 through D-8*

For clarification, the column titled “Ave. Crude Throughput” should identify that these values are in barrels per calendar day. The monthly average crude throughput values contained in this table are in barrels per calendar day (*bpcd*) whereas our effluent limitations are calculated based on barrels per stream day (*bpsd*).

The data has been identified in the chart as bpcd.

## **Appendix J - Response to Comments**

**Reference:** *Fact Sheet, Appendix J*

The table titled “U.S. Oil Human Health Criteria Evaluation” is included as Pages J-1 and J-2 within Appendix J. This table needs to be repaginated and moved to Appendix I.

The table has been changed.

### **• Comments from Citizens For A Healthy Bay (CHB).**

**1. Mixing Zone.** Per the DOE’s fact sheet. “The Lincoln Ave. Ditch is an open conveyance *upstream* of the cofferdam where U.S. Oil’s outfall ends, and continues as an open ditch for approximately 300 feet, before it enters a closed culvert and is discharged through a tide gate to the Blair Waterway.” WAC 173-201A-100(7)(a)(i) states that a mixing zone shall not extend upstream for a distance of over 100 feet. An open conveyance, in an area used by wildlife should be considered upstream.

**2. New Outfall to Blair Waterway.** We concur that effluent which does not meet water quality standards should not be discharged into the Lincoln Ave. Ditch. The Lincoln Ditch is utilized by many species of wildlife and is part of the larger estuary ecosystem. To date, the DOE has not performed any tests to rule out or discover what species are reliant upon the Lincoln Ditch as habitat, or what risk to groundwater exists. Until these tests are completed, the Lincoln Ditch needs to be treated as an estuary.

**3. Waters to be Protected.** Until the pipeline bypassing the Lincoln Ditch is completed and operational, the Lincoln Ditch should be designated as the receiving water body and the effluent limits adjusted to reflect that designation. The draft



permit requires that the pipeline be completed in 4 years, which effectively allows water quality standards to be violated for close to the entire permit cycle.

**4. Effluent Limits in the Lincoln Ditch.** WAC 173-201A-100(7)(ii) states that a mixing zone “shall not utilize greater than twenty-five percent of the flow”. Per the DOE’s fact sheet in regards to this permit, “During dry weather, the discharge from U.S. Oil comprises a majority of the flow in the ditch”. As long as effluent that violates state water quality standards is being discharged into the ditch, it needs to be treated as the receiving water body.

The Department has determined the water body to protect using the U.S. Oil (USOR) NPDES Permit is the Blair Waterway. The Department has evaluated a mixing zone for the outfall at the Blair Waterway. The Department analyzed the organic chemicals and metals in the USOR effluent and determined that the effluent did not have a potential to exceed water quality standards for a marine water body. Ecology does recognize however that habitat does exist and should be protected where the US Oil effluent currently discharges. In recognition of that problem this Permit places USOR on a compliance schedule to remove their effluent from the portion of the Lincoln Ave. Ditch system which contains wildlife habitat. USOR is currently working with the local authority (City of Tacoma) to permit a new pathway to the Blair Waterway.

**5. Cleanup and Spill Notification.** U.S. Oil’s record of spill notification and expedient clean up is commendable.

Comment noted.

**6. Hazardous Waste Management and Record Keeping.** The Department of Ecology has noted that U.S. Oil’s hazardous waste management and record keeping is “excellent”. Upon review of the files related to the permit, we concur with this appraisal.

Comment noted.

**7. Mixing Zone.** A mixing zone, which allows discharge of pollutants that exceed the state water quality standards into Commencement Bay, is not in the spirit of the Clean Water Act (CWA). The objective of this act is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The routine authorization of mixing zones is counter productive to meeting this objective. It is clearly stated in section 1251 of the CWA that, “it is the national policy that the discharge of toxic pollutants in toxics amounts be prohibited”, and that “it is the national goal that the discharge of pollutant into the navigable waters be eliminated by 1985”.

Mixing zones are allowed under the current Washington Administrative Code. The Department of Ecology relies on the water quality standards to assure that all aquatic resources are protected. These water quality standards include criteria for the protection of

aquatic life, human health and sediment quality. Permits are often issued with mixing zones, as allowed within the water quality standards, with the understanding that exceeding the criteria within these small areas around the point of discharge will not cause any problems in the receiving water environment outside the mixing zone.

U.S. Oil has been conducting bioassay testing since the early 1990's. The last bioassay failure was in 1993. The company tests both *Daphnia pulex* and *Oncorhynchus mykiss* (trout) at 100 % effluent. The company has never had a trout failure. This data indicates that within the mixing zone the minor exceedance of water quality standards will not cause a significant receiving water problem.

## • **Comments From Puget Sound Keeper Alliance**

- 1. The Puget Soundkeeper Alliance (PSA) does not support the use of mixing zone to meet water quality standards. We believe that the mixing zone , which has a chronic zone that reaches 200 feet in any direction and an acute mixing zone that reaches 20 feet in any direction from the source, should be decreased in an effort to follow the guidelines of the Clean Water Act which aims reach for zero pollution. We believe that having mixing zones goes against the goals set forth by the Clean Water Act as well as having a negative impact on the environment where one is located.**

Please refer to mixing zone discussion from the Citizens For a Healthy Bay comment number 7 section.

- 2. We request that the Department of Ecology decrease the BOD, COD, TSS, Oil and Grease, Phenolic Compounds, Total Chromium, and Hexavalent Chromium limits. All of these effluent constituents saw increases from the old permit in 1990 to this new draft permit. We believe that by decreasing these limits to at least the previous permit's standards that the goals of the Clean Water Act will be better met as well as decrease the impact the effluent has on the immediate environment.**

Ecology writes NPDES permits based on the authority of the federal Clean Water Act (CWA) and state law (Chapter 90.48 RCW Water Pollution Control). Federal effluent guidelines provide the basis for technology based NPDES permit effluent limitations for most major industries including refineries. These discharge limits are generally mass limits expressed in pounds per day of each permit parameter except for oil and grease which is a concentration (mg/kg) limit. The limits are based upon the type of process units at the refinery and the expected quantity of crude oil processed by those production units. The permit limits are dependent on a numeric analysis of how much crude oil is processed at the refinery and the pollutants each process produces. The permit limits were increased

in this permit because of the increasing crude throughput at the U.S. Oil Refinery. The limits were calculated using New Source Performance Standards as directed by federal Clean Water Act. The more stringent new source performance standards have been applied to all crude throughput increases since 1984.

- **Comments from City of Tacoma – Public Works Department.**

**S3.D Mixing Zone Descriptions – We understand, by issuance of this Permit, Ecology is now allowing mixing zones for process water from an industrial NPDES permitted facility at the end of a municipal separate storm sewer system. This is explained on Page 8 of the accompanying fact sheet as, “Ecology has also re-evaluated the discharge, and has determined that the receiving water body to be protected is the Blair Waterway, a marine water body, rather than the Lincoln Ave. Ditch.” Therefore, the point of compliance is not where the discharge occurs in the municipal separate storm sewer but at the receiving water, in this case the Blair Waterway. As a result, it appears that Ecology does not consider stormwater in our municipal separate storm pipe to be waters of the state.**

The Blair waterway is the ultimate discharge point of the US Oil discharge and the permit was written in recognition of that fact by establishing a dilution zone at the discharge point in the Blair and ensuring that water quality standards are met there. Ecology does consider the water in the Lincoln Avenue Ditch to be waters of the state and recognizes the need to protect the wildlife habitat in the ditch. The current permit has oil and grease limits that will protect waterfowl from being oiled in the Lincoln Ave. Ditch. In recognition of that the permit includes a compliance schedule for US Oil to construct an alternative discharge route to the Blair waterway in an effort to remove the discharge from habitat areas.

**S3.G Outfall Line to Blair Waterway – From our discussion with U.S. Oil and Ecology, we understand that Ecology wants U. S. Oil to construct a new discharge line to the City’s closed pipe stormwater conveyance system in Port of Tacoma Road. The current discharge is into the City’s open roadside ditch stormwater conveyance system along Lincoln Avenue. Both City stormwater systems discharge to the same outfall on the Blair Waterway. Therefore, we see no difference for protecting beneficial uses in the Blair Waterway from either discharge point in our municipal storm system, the Lincoln ditch or the Port of Tacoma Road.**

See previous response.